

AMENDMENTS TO THE CLAIMS:

1. (Original) A system for electrodepositing a conductive material on a surface of a wafer, the system comprising:

an anode;

a mask having upper and lower surfaces, the mask comprising a plurality of openings extending between the upper and lower surfaces and being supported between the anode and the surface of the wafer;

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a conductive mesh positioned below the upper surface of the mask such that the plurality of openings of the mask defines a plurality of active regions of the conductive mesh wherein the conductive mesh is connected to a first power input; and

a liquid electrolyte flowing through the openings of the mask and through the active regions of the conductive mesh so as to contact the surface of the wafer.

2. (Original) The system of Claim 1, wherein the conductive mesh is attached to the lower surface of the mask.

3. (Currently amended) The A system of Claim 1, for electrodepositing a conductive material on a surface of a wafer, the system comprising:

an anode;

a mask having upper and lower surfaces, the mask comprising a plurality of openings extending between the upper and lower surfaces and being supported between the anode and the surface of the wafer;

a conductive mesh positioned below the upper surface of the mask such that the plurality of openings of the mask defines a plurality of active regions of the conductive mesh wherein the conductive mesh is connected to a first power input; and

a liquid electrolyte flowing through the openings of the mask and through the active regions of the conductive mesh so as to contact the surface of the wafer;

wherein the conductive mesh is in the mask and is positioned between the upper surface and the lower surface of the mask.

4. (Original) The system of Claim 1, wherein the conductive mesh comprises a first area and a second area.

5. (Original) The system of Claim 4, wherein the first area is connected to the first power input.

6. (Original) The system of Claim 5, wherein the second area is connected to a second power input.

7. (Currently amended) An anode assembly useable together with a cathode assembly in a device which ~~can~~ is adapted to provide deposition of conductive material from an electrolyte onto a surface of a semiconductor substrate comprising:

an anode which ~~can~~ is adapted to be contacted by the electrolyte during deposition of said conductive material,

a conductive element permitting electrolyte flow therethrough, and

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a mask lying over the conductive element and having openings permitting electrolyte flow therethrough, said openings defining active regions of the conductive element by which a rate of conductive material deposition onto said surface can is adapted to be varied.

8. (Original) The anode assembly of Claim 7, wherein said conductive element is a conductive mesh.

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9. (Original) The anode assembly of Claim 7, wherein said conductive element includes a plurality of electrically isolated sections.

10. (Original) The anode assembly of Claim 9, wherein said conductive element includes at least one isolation member separating the electrically isolated sections.

11. (Original) The anode assembly of Claim 9, wherein said conductive element includes at least one gap separating the electrically isolated sections.

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12. (Currently amended) The anode assembly of Claim 9, wherein the electrically isolated sections can are adapted to be connected to separate control power sources.

13. (Currently amended) The An anode assembly of Claim 7 useable together with a cathode assembly in a device which is adapted to provide deposition of conductive material from an electrolyte onto a surface of a semiconductor substrate comprising:

an anode which is adapted to be contacted by the electrolyte during deposition of said conductive material,

a conductive element permitting electrolyte flow therethrough, and

a mask lying over the conductive element and having openings permitting electrolyte flow therethrough, said openings defining active regions of the conductive element by which a rate of conductive material deposition onto said surface is adapted to be varied,

wherein the conductive element is sandwiched between top and bottom mask portions which together define said mask.

14. (Original) The anode assembly of Claim 7, wherein the conductive element is placed under a lower surface of said mask.

15. (Original) The anode assembly of Claim 9, wherein one of said electrically isolated sections circumferentially surrounds another of said electrically isolated sections.

16. (Original) The anode assembly of Claim 15, wherein the electrically isolated sections are irregularly shaped.

17. (Original) The anode assembly of Claim 15, wherein said one of said electrically isolated sections is ring shaped.

18. (Original) The anode assembly of Claim 17, wherein the other of said electrically isolated sections is disc shaped.

19. (Original) The anode assembly of Claim 9, wherein said electrically isolated sections define adjacent strips.

20. (Currently amended) An apparatus which ~~can~~ is adapted to control thickness uniformity during deposition of conductive material from an electrolyte onto a surface of a semiconductor substrate comprising:

an anode which ~~can~~ is adapted to be contacted by the electrolyte during deposition of said conductive material,

a cathode assembly including a carrier adapted to carry the substrate for movement during said deposition,

a conductive element permitting electrolyte flow therethrough,

a mask lying over the conductive element and having openings permitting electrolyte flow therethrough, said openings defining active regions of the conductive element by which a rate of conductive material deposition onto said surface ~~can be varied~~ is made variable, and

a power source which ~~can~~ is adapted to provide a potential between said anode and said cathode assembly so as to produce said deposition.

21. (Original) The apparatus of Claim 20, wherein said conductive element is a conductive mesh.

22. (Original) The apparatus of Claim 20, wherein said conductive element includes a plurality of electrically isolated sections.

23. (Original) The apparatus of Claim 22, wherein said conductive element includes at least one isolation member separating the electrically isolated sections.

24. (Original) The apparatus of Claim 22, wherein said conductive element includes at least one gap separating the electrically isolated sections.

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25. (Currently amended) The apparatus of Claim 22, wherein the electrically isolated sections ~~can~~ are adapted to be connected to separate control power sources.

26. (Currently amended) ~~The~~ An ~~apparatus of Claim 20~~ which is adapted to control thickness uniformity during deposition of conductive material from an electrolyte onto a surface of a semiconductor substrate comprising:

an anode which is adapted to be contacted by the electrolyte during deposition of said conductive material,

a cathode assembly including a carrier adapted to carry the substrate for movement during said deposition,

a conductive element permitting electrolyte flow therethrough,

a mask lying over the conductive element and having openings permitting electrolyte flow therethrough, said openings defining active regions of the conductive element by which a rate of conductive material deposition onto said surface is made variable, and

a power source which is adapted to provide a potential between said anode and said cathode assembly so as to produce said deposition,

wherein the conductive element is sandwiched between top and bottom mask portions which together define said mask.

27. (Original) The apparatus of Claim 20, wherein the conductive element is placed under a lower surface of said mask.

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28. (Original) The apparatus of Claim 22, wherein one of said electrically isolated sections circumferentially surrounds another of said electrically isolated sections.

29. (Original) The apparatus of Claim 28, wherein the electrically isolated sections are irregularly shaped.

30. (Original) The apparatus of Claim 28, wherein said one of said electrically isolated sections is ring shaped.

31. (Original) The apparatus of Claim 30, wherein the other of said electrically isolated sections is disc shaped.

32. (Original) The apparatus of Claim 22, wherein said electrically isolated sections define adjacent strips.

33. (Currently amended) The apparatus of Claim 22, and further comprising at least one control power source which ~~can~~ is adapted to supply a voltage to at least one of said electrically isolated sections to vary said rate of conductive material deposition onto a region of said surface.

34. (Original) The apparatus of Claim 33, wherein said rate is increased.

35. (Original) The apparatus of Claim 33, wherein said rate is decreased.

36. (Currently amended) The apparatus of Claim 22, wherein said power source ~~can~~ is adapted to additionally supply a voltage to at least one of said electrically isolated sections to vary said rate of conductive material deposition onto a region of said surface.

37. (Original) The apparatus of Claim 36, wherein said rate is increased.

38. (Original) The apparatus of Claim 36, wherein said rate is decreased.

39. (Currently amended) The apparatus of Claim 36, and further comprising at least one additional power source which ~~can~~ is adapted to supply an additional voltage to another of said electrically isolated sections.

40. (Currently amended) The apparatus of Claim 20, and further comprising at least one control power source which ~~can~~ is adapted to supply a voltage to said conductive element to vary said rate of conductive material deposition.

41. (Original) The apparatus of Claim 39, wherein said rate is increased.

42. (Original) The apparatus of Claim 39, wherein said rate is decreased.

43. (Currently amended) The apparatus of Claim 20, wherein said power source ~~can~~ is adapted to supply a voltage to said conductive element to vary said rate of conductive material deposition.

44. (Original) The apparatus of Claim 43, wherein said rate is increased.

45. (Original) The apparatus of Claim 43, wherein said rate is decreased.

46-56. (Cancelled)

57. (Currently amended) An apparatus which ~~can~~ is adapted to control thickness uniformity during electroetching of conductive material from a surface of a semiconductor substrate comprising:

an anode which ~~can~~ is adapted to be contacted by an electrolyte during electroetching of said conductive material,

a cathode assembly including a carrier adapted to carry the substrate for movement during said electroetching,

a conductive element permitting electrolyte flow therethrough,

a mask lying over the conductive element and having openings permitting electrolyte flow therethrough, said openings defining active regions of the conductive element by

which a rate of conductive material electroetching from said surface ~~can be varied~~ is made variable, and

a power source which ~~can~~ is adapted to provide a potential between said anode and said cathode assembly so as to produce said electroetching.

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58. (Original) The apparatus of Claim 57, wherein said conductive element is a conductive mesh.

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59. (Original) The apparatus of Claim 57, wherein said conductive element includes a plurality of electrically isolated sections.

60. (Original) The apparatus of Claim 59, wherein said conductive element includes at least one isolation member separating the electrically isolated sections.

61. (Original) The apparatus of Claim 59, wherein said conductive element includes at least one gap separating the electrically isolated sections.

62. (Cancelled)

63. (New) The system of Claim 1, wherein the conductive mesh is attached to the mask.

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64. (New) The anode assembly of Claim 7, wherein the conductive element is attached to the mask.

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65. (New) The apparatus of Claim 20, wherein the
conductive element is attached to the mask.

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66. (New) The apparatus of Claim 57, wherein the
conductive element is attached to the mask.
